

Serial No.: 09/751,194
Examiner: Tri H. Phan

In the claims:

Please cancel claims 8-10, 20-23, and 27-57.

Please amend the claims as follows:

1(currently amended). A packet switching controller comprising:

a first engine; and

a second engine comprising one or more programmable elements, at least one programmable element containing one or more instruction sets,

wherein the first engine identifies an instruction set to be executed in the programmable element for a packet, and the programmable element executes the identified instruction set to process the packet. and further wherein the first engine indicates to a first programmable element in at least one pipeline to start processing the packet, and the first programmable element stops processing at the end of the identified instruction set, and the first programmable element indicates to a second programmable element in said pipeline to start processing the packet.

2(original). The packet switching controller of claim 1 wherein a plurality of identified instruction sets are executed sequentially to process the packet.

3(original). The packet switching controller of claim 1 wherein the programmable elements are organized into one or more pipelines, and the programmable elements in the pipelines execute a plurality of identified instruction sets to process the packet.

4(original). The packet switching controller of claim 3 wherein at least one programmable element generates an output, and at least one programmable element generates application data for the packet by using the output generated by a preceding programmable element in at least one pipeline.

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5(original). The packet switching controller of claim 1 wherein at least one programmable element generates application data for the packet by using one or more of source address data of the packet, destination address of the packet, and a service classifier associated with the packet.

6(original). The packet switching controller of claim 1 wherein at least one programmable element generates application data for the packet, and wherein the application data includes one or more of accounting data, routing data and policing data.

7(original). The packet switching controller of claim 1 wherein the first engine classifies the packet in accordance with tree-based classification logic.

Claims 8-10 (canceled)

11(original). The packet switching controller of claim 1 wherein at least one of the programmable elements generates a disposition decision for the packet, and wherein the disposition decision is based on at least one of classification information for the packet and one or more disposition recommendations.

12(original). The packet switching controller of claim 11 wherein the classification information is provided by the first engine.

13(original). The packet switching controller of claim 11 wherein the disposition recommendations are provided by one or more programmable elements.

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14(currently amended). A method of processing a packet using a packet switching controller having a first engine and a second engine, the second engine comprising one or more programmable elements, the method comprising the steps of:

identifying an instruction set to be executed for the packet in at least one programmable element; and

classifying, using the first engine, the packet in accordance with tree-based classification logic;

executing the identified instruction set to process the packet;

indicating, using the first engine, to a first programmable element in at least one pipeline to start processing the packet;

stopping processing in the first programmable element at the end of the identified instruction set; and

using the first programmable element, to a second programmable element in said pipeline to start processing the packet.

15(original). The method of claim 14 wherein the step of executing the identified instruction set comprises the step of executing a plurality of identified instruction sets sequentially to process the packet.

16(original). The method of claim 14 wherein the programmable elements are organized into one or more pipelines, and the step of executing the identified instruction set comprises the step of executing a plurality of identified instruction sets in the pipelines.

17(original). The method of claim 16 further comprising the step of:
generating an output from one or more programmable elements,

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wherein at least one programmable element generates application data for the packet by using the output generated by a preceding programmable element in at least one pipeline.

18(original). The method of claim 14 wherein at least one programmable element generates application data for the packet by using one or more of source address data of the packet, destination address data of the packet, and a service classifier associated with the packet.

19(original). The method of claim 14 wherein at least one programmable element generates application data for the packet, and wherein the application data include one or more of accounting data, routing data and policing data.

Claims 20-23 (canceled)

24(original). The method of claim 14 further comprising the step of providing a disposition decision for the packet, wherein the disposition decision is based on at least one of classification information for the packet and one or more disposition recommendations.

25(original). The method of claim 24 further comprising the step of identifying the classification information in the first engine.

26(original). The method of claim 24 further comprising the step of generating the disposition recommendations in one or more programmable elements.

Claims 27-57 (canceled)